

REMARKS

Claims 1-8 are pending in this Application. Claims 9-38 have been canceled without prejudice. In the Office Action mailed December 27, 2005, the Examiner rejected Claims 1-8 under 35 U.S.C. § 102(a, b and e) as being anticipated by or, in alternative, under 35 U.S.C. § 103(a) as being obvious over US Patent No. 6,933,038 by Nanko et al ("Nanko"), US Patent No. 4,647,505 by Blackie et al. ("Blackie"), US Patent No. 6,562,743 by Cook et al. ("the '743 patent"), US Patent No. 6,770,576 by Cook et al. ("the '576 patent"), US Patent No. 5,021,093 by Beshay ("Beshay"), or Proceedings of the Materials Research Society's Symposium on Mechanisms of Chemical Degradation of Cement-based Systems, Boston, Nov. 27-30, 1995 by Lin et al. ("Lin").

Applicants respectfully submit amended Claim 1, amended to claim a building material "comprising a cementitious binder and an aggregate, and cellulose reinforcing fibers, wherein at least a portion of the fibers are pretreated with a dispersant to form chemically treated cellulose fibers with improved dispersibility, wherein the dispersant binds hydroxyl groups on the fiber surface prior to the fibers being incorporated into the building material so as to make the fiber surface more hydrophobic and to repel water and to substantially inhibit bonding between hydroxyl groups of different fibers, thereby substantially reducing inter-fiber bonding so that the chemically treated cellulose fibers are more readily dispersed in the building material to form a fiber cement mixture." [Emphasis added to show amended text.] Support for amended Claim 1 may be found throughout the specification, see,

for example, paragraphs [0014], [0015], [0051], [0060]. No new matter has been introduced with amended Claim 1. Claim 2 has been amended to provide proper antecedent basis in the claim. No new matter is introduced with amended Claim 2. Entry and allowance of amended Claims 1 and 2 are respectfully requested.

Applicants also respectfully request entry and allowance of new Claims 39-42, believed necessary to fairly protect the instant invention and not anticipated or obvious over the cited prior art as will be discussed in length below. Support for the new Claims 39-42 may be found throughout the specification. No new matter is introduced with the new claims. Entry and allowance of new Claims 39-42 are respectfully requested

Applicants further submit that neither Nanko, Blackie, the '743 patent, the '576 patent, Beshay or Lin alone or in combination anticipate or make obvious Applicants' claimed invention. First, with respect to Nanko, the Examiner states that Nanko "teach chemical pretreatment of cellulose fibers with cationic polymers and surfactants." However, Nanko does not teach or suggest each and every element of amended Claim 1 nor the claimed invention as a whole. For example, Nanko does not teach or suggest a composition or method to make the fiber surface more hydrophobic or repel water. In fact, Nanko makes no mention of any hydrophobicity or of repelling water. Instead, the reference specifically teaches against this by disclosing and claiming a composition and method in which fibers are added to a coordinating material with water in the form of a slurry (Col. 6, ll. 7-13; Col. 7, ll. 6-7; Claim 1; Claim 22) and coordinating materials are stated to "improve bonding with the surrounding mineral-based

material paste" (Col. 7, ll. 1-2). Accordingly, Nanko does not teach or describe, expressly or inherently, each and every element as set forth in amended Claim 1 nor does Nanko have elements arranged as required by amended Claim 1. As such, amended Claim 1 is not anticipated by Nanko. Moreover, because Nanko teaches away from the claimed invention, there is no suggestion or motivation, either in the Nanko reference or to one of ordinary skill in the art, to modify Nanko in order to provide amended Claim 1 or to combine Nanko with Blackie, the '743 patent, the '576 patent, Beshay or Lin. For this reason, there is no reasonable expectation of any success. In addition, neither Nanko nor the Nanko reference when combined with Blackie, the '743 patent, the '576 patent, Beshay or Lin teach or suggest all the claim limitations of amended Claim 1. Furthermore, when Applicants' claimed invention was unknown and just before it was made, there was no knowledge of Nanko, because this application was not published until October 31, 2002, which is a year and a half after the priority date of the instant application. In view of all factual information, amended Claim 1 "as a whole" would not have been obvious over Nanko.

With respect to Blackie, the Examiner states that Blackie "teach treatment of cellulose with chelate compounds prior to addition to cement." However, Blackie does not teach or suggest each and every element of amended Claim 1 nor the claimed invention as a whole. For example, Blackie does not teach or suggest a composition or method to make the fiber surface more hydrophobic or repel water. Instead, Blackie teaches specifically against this by explicitly disclosing that "the effect is not

concentrated at the surface of the fibres, they remain wettable by water" (Col. 2, l. 68 to Col. 3, ll. 1). Applicants further submit that Blackie does not even teach that cellulose fibers are more readily dispersed pointing to the fact that Blackie teaches "uniform webs may be formed from the slurries for making fibre-reinforced cement products" (Col. 3, ll. 3-4) and further discloses that their treatment require "cross-links between said hydroxyl group residues [of the cellulose fibres]" (Col. 3, ll. 10-12). Accordingly, Blackie does not teach or describe, expressly or inherently, each and every element as set forth in amended Claim 1 nor does Blackie have elements arranged as required by amended Claim 1. As such, amended Claim 1 is not anticipated by Blackie. Moreover, because Blackie teaches away from the claimed invention, there is no suggestion or motivation, either in the Blackie reference or to one of ordinary skill in the art, to modify Blackie in order to provide amended Claim 1 or to combine Blackie with Nanko, the '743 patent, the '576 patent, Beshay or Lin. For this reason, there is no reasonable expectation of any success. In addition, neither Blackie nor the Blackie reference when combined with Nanko, the '743 patent, the '576 patent, Beshay or Lin teach or suggest all the claim limitations of amended Claim 1. In view of all factual information, amended Claim 1 "as a whole" would not have been obvious over Blackie.

With respect to the '743 patent and the '576 patent, the Examiner states that these references "teach pretreating cellulose fibers with a polyvalent cation containing compound (i.e. dispersant) thus anticipating the instant invention (see claims)."

However, the '743 patent and the '576 patent do not teach or suggest each and every element of amended Claim 1 nor do they teach or suggest the claimed invention as a whole. For example, the '743 patent and the '576 patent disclose and claim absorbent structures and articles that require preparing "fibers suitable for use in an absorbent core" (Col. 4, l. 20; Abstract). Importantly, absorbent structures and articles of these patents are specifically disclosed to exhibit increased permeability for high fluid flow (Col. 3, ll. 57-62) and to be used with diapers (Fig. 7, Col. 4, ll. 4-6). The patents do not teach or suggest that their absorbent structures and articles make the fiber surface more hydrophobic or repel water because, as just discussed and as further disclosed by these patents, the net effect of their invention is to increase permeability and absorbance of fibers. Hence, the '743 patent and the '576 patent teach away from Applicants' claimed invention. Moreover, the referenced patents do not even teach or suggest a building material comprising a cementitious binder and an aggregate, and cellulose reinforcing fibers nor do such patents teach or suggest at least a portion of the fibers are pretreated. Further, the '743 patent and the '576 patent do not teach that cellulose fibers are more readily dispersed. Applicants respectfully request the Examiner point to such specific teachings as claimed in Applicants' amended Claim 1, should they exist. Accordingly, the '743 patent and the '576 patent do not teach or describe, expressly or inherently, each and every element as set forth in amended Claim 1 nor do the '743 patent and the '576 patents have elements arranged as required by amended Claim 1. As such, amended Claim 1 is not anticipated by either of these patents. Moreover, because the '743 patent and

the '576 patents teach away from the claimed invention, there is no suggestion or motivation, either in the patents or to one of ordinary skill in the art, to modify the patents in order to provide amended Claim 1 or to combine either patent with Nanko, Blackie, Beshay or Lin. For this reason, there is no reasonable expectation of any success. Furthermore, Applicants respectfully submit that neither the '743 patent or the '576 patent are in a relevant or analogous art, because neither patent is in the field of building materials nor is either patent reasonably pertinent to the particular problem of Applicants' invention, which includes "a need for a fiber that can be readily dispersed and uniformly distributed in fiber reinforced composite building materials," as described in paragraph [0012] of the originally filed application for patent. As such, Applicants submit that neither the '743 patent nor the '576 patent would have logically commended itself to one of ordinary skill in the relevant art when considering a need for a fiber that can be readily dispersed and uniformly distributed in fiber reinforced composite building materials. Further, there are no structural similarities or functional overlaps between the instant invention for fiber reinforced composite building materials and the absorbent structures and articles for diapers as provided by the '743 patent or the '576 patent. Thus, it would not be logical to combine the '743 patent or the '576 patent with Nanko, Blackie, Beshay or Lin. In view of all factual information, amended Claim 1 "as a whole" would not have been obvious over the '743 patent or the '576 patent.

With respect to Beshay, the Examiner states that the reference teaches "pretreating cellulose fibers with silylating

agents such as organosilanes (dispersants) thus anticipating the instant invention." However, Applicants respectfully point out that Beshay does not teach or suggest each and every element of amended Claim 1 nor does it teach or suggest the claimed invention as a whole. For example, Beshay does not teach or suggest that a dispersant binds hydroxyl groups on the fiber surface prior to the fibers being incorporated into the non-cellulose building material or that the fibers being incorporated so as to make the fiber surface more hydrophobic and to repel water or that the fibers being incorporated so as to substantially inhibit bonding between hydroxyl groups of different fibers. Instead, Beshay teaches a "grafting process onto cellulosic fibers. . . by generating free radicals. . . accomplished by using a free radical catalyst such as a peroxide" (Col. 1, ll. 38-47) or accomplished by "gamma radiation, U.V. radiation, or any other effective process, for grafting the silylating agent" (Col. 1, ll. 54-56). In fact, Beshay teaches specifically against a fiber surface more hydrophobic and to repel water by disclosing a composite material "soaked in a calcium chloride solution before or after the grafting process to minimize the cement poisoning" (See Col. 2, ll. 14-16). In Examples 1 and 2, Beshay further teaches against a fiber surface more hydrophobic and to repel water by describing that the fibers are mixed with water to form a paste followed by being "kept in the molds for 24 hours in closed plastic containers, then removed from the molds, soaked in water for 24 hours, then stored for six days in closed plastic bags." (Example 1 and Example 2). Accordingly, Beshay does not teach or describe, expressly or inherently, each and every element as set forth in amended Claim 1 nor does Beshay have elements arranged as required

by amended Claim 1. As such, amended Claim 1 is not anticipated by Beshay. Moreover, because Beshay teaches away from the claimed invention, there is no suggestion or motivation, either in the Beshay reference or to one of ordinary skill in the art, to modify Beshay in order to provide amended Claim 1 or to combine Beshay with Nanko, the '743 patent, the '576 patent, Blackie, or Lin. For this reason, there is no reasonable expectation of any success. In addition, neither Beshay nor the Beshay reference when combined with Nanko, the '743 patent, the '576 patent, Blackie, or Lin teach or suggest all the claim limitations of amended Claim 1. In view of all factual information, amended Claim 1 "as a whole" would not have been obvious over Beshay.

With respect to Lin, the Examiner states that the reference teaches "soaking in silane the cellulose fibers used in cement compositions as reinforcement (see abstract) thus anticipating the instant invention." Applicants agree that Lin suggests soaking fibers; however, it is pointed out that Lin has no evidence in the record of operability without undue experimentation. In fact, Lin merely suggests a broad, non-operable approach to improve "the resistance of cellulose fiber reinforced composites to wet-dry cycling" but provides no evidence. Applicants further submit that Lin does not teach each and every element of Claim 1 nor does Lin teach or suggest the Applicants' claimed invention as a whole. For example, Applicants also point out that Lin does not teach or suggest a building material comprising a cementitious binder and an aggregate, and cellulose reinforcing fibers, wherein at least a portion of the fibers are pretreated with a dispersant to form

chemically treated cellulose fibers with improved dispersibility. Applicants respectfully request such a teaching be shown by the Examiner if it exists. Further, Lin does not teach or suggest specifically a building material composition or method to make the fiber surface more hydrophobic or repel water. Instead, Lin teaches against a fiber surface more hydrophobic or repels water by disclosing "soaking [cellulose fibers] in treatment solutions of PEG, PVAC, silane and acrylic polymers." Accordingly, Lin does not teach or describe, expressly or inherently, each and every element as set forth in amended Claim 1 nor does Lin have elements arranged as required by amended Claim 1. As such, amended Claim 1 is not anticipated by Lin. Moreover, because Lin teaches away from the claimed invention, there is no suggestion or motivation, either in the Lin reference or to one of ordinary skill in the art, to modify Lin in order to provide amended Claim 1 or to combine Lin with Nanko, the '743 patent, the '576 patent, Blackie, or Beshay. For this reason, there is no reasonable expectation of any success. In addition, neither Lin nor the Lin reference when combined with Nanko, the '743 patent, the '576 patent, Blackie, or Beshay teach or suggest all the claim limitations of amended Claim 1. In view of all factual information, amended Claim 1 "as a whole" would not have been obvious over Lin.

Establishment of the Assignee as owner of this Application for patent is provided in the submission of documentary evidence of a chain of title from the original owner to the Assignee that has been recorded in the Assignment Records Office of the United

Stated Patent and Trademark Office on April 15, 2002, under Reel 012776 and Frame 0761, followed by recordals on February 28, 2005, under Reel 016353 and Frame 0550 and on March 28, 2005, as Reel 015962 and Frame 0390, as indicated on the attached Statement under 37 C.F.R. § 3.73(b). This submission is being provided at the same time as this paper requesting and taking action on behalf of the Assignee. A Power of Attorney and Correspondence Address Indication Form signed by a person having apparent authority to sign on behalf of the Assignee as an officer of the Assignee (in accordance with 37 C.F.R. §§ 3.71 and 3.73) is also provided with this Amendment to appoint all practitioners associated with Customer Number 60148, including the agent signing this Amendment, full power to prosecute this Application for patent, to make alterations and amendments thereto and to transact all business connected herewith with the United States Patent and Trademark Office. Accordingly, this Amendment is heretofore signed by an attorney or agent of record acting in a representative capacity as provided by 37 C.F.R. § 1.34.

CONCLUSION

Applicants respectfully submit that the Application is in condition for allowance, and Applicants earnestly seek such allowance of Claims 1-8 and 39-42. Should the Examiner have any questions, comments, or suggestions in furtherance of the prosecution of this Application, please contact Applicants' representative at 214.999.4330. Applicants, through their representative, stand ready to conduct a telephone interview with the Examiner to review this Application if the Examiner believes that such an interview would assist in the advancement of this Application.

To the extent that any further fees are required during the pendency of this Application, including petition fees, the Commissioner is hereby authorized to charge payment of any additional fees, including, without limitation, any fees under 37 C.F.R. § 1.16 or 37 C.F.R. § 1.17, to Deposit Account No. 07-0153 of Gardere Wynne Sewell LLP and reference Attorney Docket No. 129843.1051. In the event that any additional time is needed for this filing, or any additional time in excess of that requested in a petition for an extension of time, please consider this a petition for an extension of time for any needed extension of time pursuant to 37 C.F.R. § 1.136 or any other section or provision of Title 37. Applicants respectfully request that the Commissioner grant any such petition and authorize the Commissioner to charge the Deposit Account referenced above. Please credit any overpayments to this same Deposit Account.

Attorney Docket No. 129843.1051  
Customer No. 60148

AMENDMENT AND RESPONSE  
SERIAL NO. 10/090,060

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This is intended to be a complete response to the Office Action mailed December 27, 2005.

**Please direct all correspondence to the practitioner listed below at Customer No. 60148.**

Respectfully submitted,

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March 27, 2006